CLAIMS

1. An ultrahigh-strength hot-rolled steel, wherein its chemical composition comprises, by weight:

$0.05\% \leq C \leq 0.1\%$
$0.7\% \leq Mn \leq 1.1\%$
$0.5\% \leq Cr \leq 1.0\%$
$0.05\% \leq Si \leq 0.3\%$
$0.05\% \leq Ti \leq 0.1\%$
$Al \leq 0.07$
$S \leq 0.03\%$
$P \leq 0.05\%$

the balance being iron and impurities resulting from the smelting, said steel having a bainite-martensite structure that may contain up to 5% ferrite.

2. The steel as claimed in claim 1, wherein its composition furthermore comprises:

$0.08\% \leq C \leq 0.09\%$
$0.8\% \leq Mn \leq 1.0\%$
$0.6\% \leq Cr \leq 0.9\%$
$0.2\% \leq Si \leq 0.3\%$
$0.05\% \leq Ti \leq 0.09\%$
$Al \leq 0.07$
$S \leq 0.03\%$
$P \leq 0.05\%$

the balance being iron and impurities resulting from the smelting, said steel having a bainite-martensite structure that may contain up to 5% ferrite.

3. The steel as claimed in either of claims 1 and 2, wherein furthermore its structure consists of 70 to 90% bainite, 10 to 30% martensite and 0 to 5% ferrite.

4. The steel as claimed in any one of claims 1 to 3, which has a tensile strength R_m of 950 MPa or higher.

5. The steel as claimed in any one of claims 1 to 4, which has an elongation at break A of 10% or higher.

6. The steel as claimed in any one of claims 1 to 5, which has a yield strength E of 680 MPa or higher.

7. The steel as claimed in any one of claims 1 to 6, which has an E/R_m ratio of less than 0.8.

8. A process for manufacturing a strip of ultrahigh-strength hot-rolled steel as claimed in any one of claims 1 to 7, wherein a slab, whose composition comprises:

$0.05\% \leq C \leq 0.1\%$
$0.7\% \leq Mn \leq 1.1\%$
$0.5\% \leq Cr \leq 1.0\%$
$0.05\% \leq Si \leq 0.3\%$
$0.05\% \leq Ti \leq 0.1\%$
$Al \leq 0.07\%$
$S \leq 0.03\%$
$P \leq 0.05\%$,

the balance being iron and impurities resulting from the smelting, is hot-rolled, the rolling temperature being below 950°C, then the strip thus obtained is cooled down to a temperature of 400°C or below, maintaining a cooling rate of greater than 50°C/s between 800 and 700°C, and then said strip is coiled at a coiling temperature of 250°C or below.

9. The manufacturing process as claimed in claim 8, wherein furthermore a slab whose composition comprises:

$0.08\% \leq C \leq 0.09\%$
$0.8\% \leq Mn \leq 1.0\%$
$0.6\% \leq Cr \leq 0.9\%$
$0.2\% \leq Si \leq 0.3\%$
$0.05\% \leq Ti \leq 0.09\%$
$Al \leq 0.07\%$
$S \leq 0.03\%$
$P \leq 0.05\%$,

the balance being iron and impurities resulting from the smelting, is hot-rolled.

10. The manufacturing process as claimed in either of claims 8 and 9, wherein the hot-rolled steel strip is coated with zinc or a zinc alloy, by dipping it into a bath of molten zinc or zinc alloy following said coiling operation and after having been uncoiled, and then annealed.